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DR 1093
NOVEMBER 1979

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METEOROLOGICAL DATA REPORT

19701A GSRS
Missile No. 211
Round No. B-57
19 November 1979

by

White Sands Meteorological Team

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ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19701A GSRS, Missile Number 211, Round Number B-57 are presented in tabular form.		

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INTRODUCTION

19701A GSRS, Missile Number 211, Round Number B-57,
was launched from LC-33, White Sands Missile Range (WSMR), New Mexico,
at 1100 MST on 19 November 1979. The scheduled launch time was
1100 MST.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), Wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from: existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

5. Upper Air

(1) Low level wind data were obtained from RAPIS T-9 pibal observation at:

SITE AND ALTITUDE

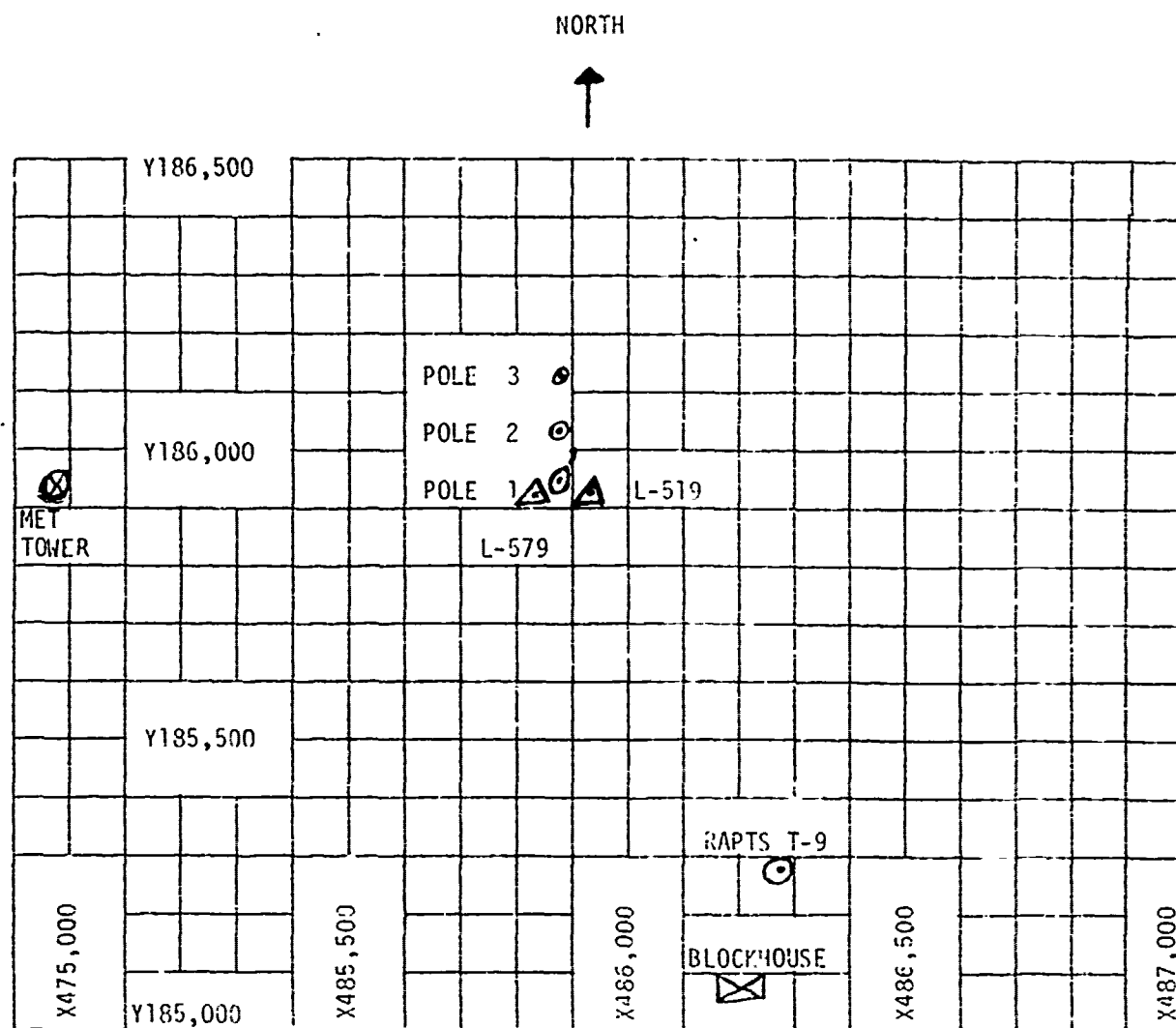
LC-33 2 km
Nick 2 km

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 83,000 feet in 500-foot increments.

SITE AND TIME

SMR 1145 MST
WSD 1015 MST

Accession For	Dist	Available by	Available d/or
NTIS #441	A	Dist	special
DAC TAB			
Un indexed			
Ju publication			
By			
Dis			
Available by			
Available d/or			



1. MET TOWER - 4 Bendix Model T-20 Anemometers at 12 ft, 62 ft, 102 ft, and 202 ft with E/A recorders.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders.
 - (a) Pole #1 - 38.7 ft.
 - (b) Pole #2 - 53.0 ft.
 - (c) Pole #3 - 83.6 ft.
3. RAPTS T-9 Radar Automatic Pilot-Balloon Tracking System T-9 Radar.

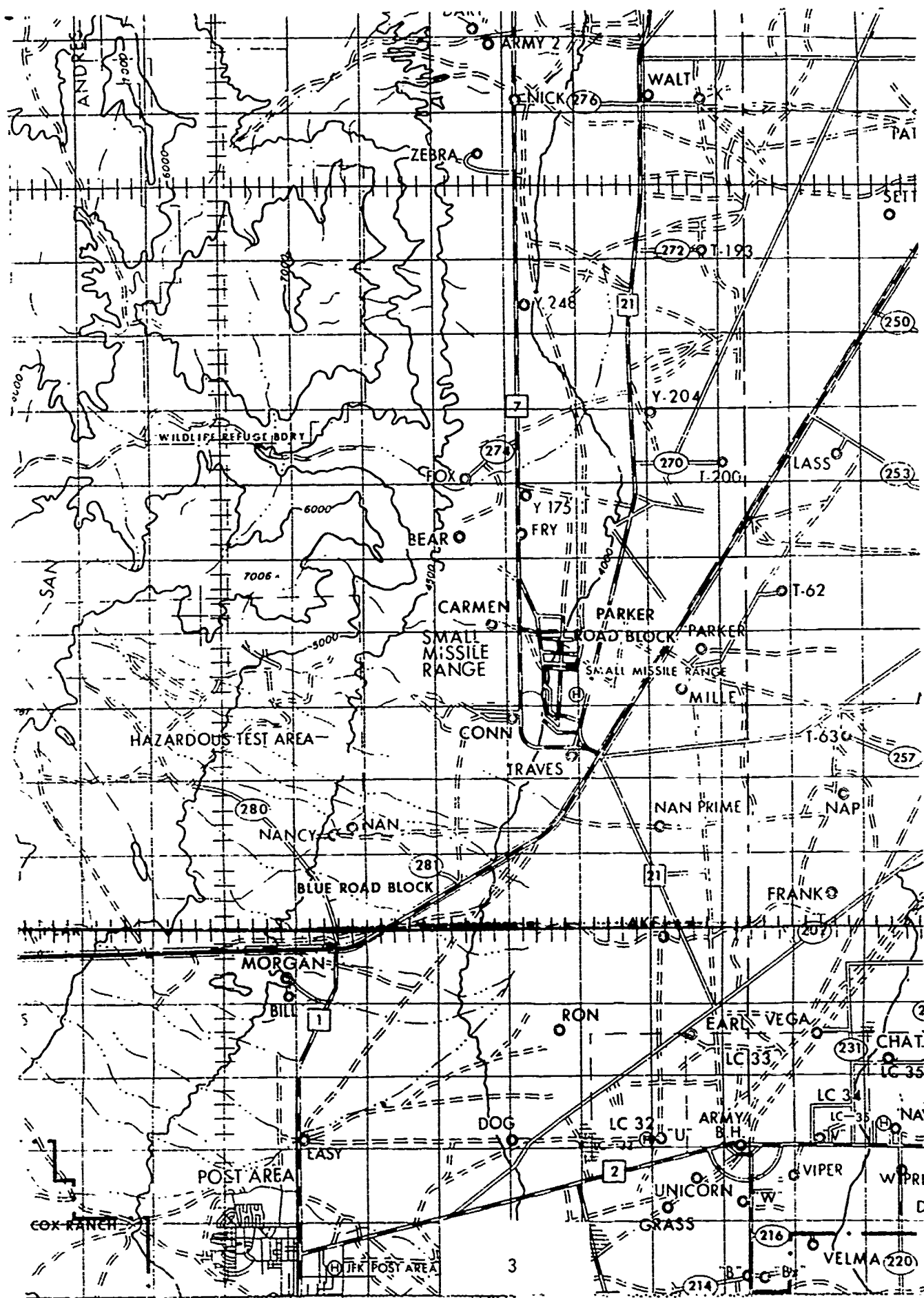


TABLE 1. Surface Observations taken at 1100 MST,
19 November 1979, at LC-33, 19701A GSRs,
Missile Number 211, Round Number B-57.

ELEVATION	3977.30	FT/MSL
PRESSURE	877.5	MBS
TEMPERATURE	19.5	°C
RELATIVE HUMIDITY	36	%
DEW POINT	4.1	°C
DENSITY	1044.78	GM/M ³
WIND SPEED	15	KTS
WIND DIRECTION	142	DEGREES
CLOUD COVER	4	Cu

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	133	10	-30	158	09	-30	143	15
-20	137	17	-20	135	10	-20	153	15
-10	141	16	-10	151	11	-10	147	15
0.0	142	15	0.0	150	10	0.0	144	14
+10	135	16	+10	138	11	+10	146	17

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	136	12	-30	156	15
-20	125	10	-20	154	14
-10	144	08	-10	161	13
0.0	143	11	0.0	163	16
+10	126	10	+10	152	16

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	155	13	-30	144	14
-20	152	16	-20	148	14
-10	150	13	-10	144	15
0.0	160	14	0.0	135	14
+10	150	16	+10	148	18

PILOT BALLOON MEASURED WIND DATA

TABLE 4

RELEASED FROM LC-33 DATE 19 November 1979 TIME 1050 MST

TRACKER COORDINATES (WSTM) X= 486,037.24 Y= 182,350.16 H= 3977.30

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL xx OR FEET AGL .

[illegible][illegible][illegible]

PILOT BALLOON MEASURED WIND DATA

TABLE 5

RELEASED FROM LC-33

DATE 19 November 1979

TIME 1100 MST

TRACKER

COORDINATES (WSTM)

$X = 486,037.24$

$$Y = 182,350.16$$

H= 3977.30

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL XX OR FEET AGL.

[illegible][illegible][illegible]

PILOT BALLOON MEASURED WIND DATA

TABLE 6

RELEASED FROM Nick Site DATE 19 November 1979 TIME 1048 MST

RELEASE POINT COORDINATES (WSTM) X= 470,734.56 Y= 255,775.64 H= 4126.57

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGLXX OR FEET AGL.

[illegible][illegible][illegible]

PILOT BALLOON MEASURED WIND DATA

TABLE 7

RELEASED FROM Nick Site DATE 19 November 1979 TIME 1100 MST

RELEASE POINT COORDINATES (WSTM) X= 470,734.56 Y= 255,775.64 H= 4126.57

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL XX OR FEET AGL .

[illegible][illegible][illegible]

STATION ALTITUDE 989.60 FEET MSL
10 NOV. 79
ASCENSION NO. 439

SIGNIFICANT LEVEL DATA

3230020400
WHITE SANDS

TABLE 8

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE		REL. HUM. PERCENT
680.0	3389.0	13.9	4.3
667.2	4399.1	15.0	.1
550.0	4754.5	13.6	-1.1
770.4	7545.8	7.4	1.3
745.1	8546.3	5.0	.9
720.2	9455.7	3.0	-2.3
700.0	10212.0	1.6	-2.9
681.0	10915.7	-2.3	-4.9
672.0	11269.0	-2.3	-0.9
653.4	12027.5	.0	-21.4
644.6	12384.5	.5	-22.4
600.0	13256.9	-4.0	-23.0
525.2	17661.8	-11.7	-29.5
508.0	18992.5	-15.1	-28.0
472.0	20319.9	-17.1	-34.1
436.6	22225.2	-22.0	-37.4
400.0	24327.3	-26.1	-35.1
371.5	26667.4	-30.0	-43.2
341.4	28042.5	-32.9	-48.5
335.6	28435.7	-33.7	-49.2
300.0	30995.9	-38.6	
250.0	35020.3	-49.0	
215.2	33215.5	-55.5	
202.4	35516.4	-51.7	
200.0	39771.2	-51.2	
194.0	40422.7	-51.2	
162.5	44121.1	-56.1	
150.0	45815.2	-59.7	
133.8	48144.0	-64.5	
123.6	49733.5	-65.7	
110.2	52036.3	-65.0	
100.0	53227.7	-64.6	
70.5	58709.1	-63.0	
75.8	59582.0	-65.2	
70.0	61198.9	-61.0	
58.2	68749.9	-65.2	
50.0	68043.1	-60.1	
32.0	76761.6	-59.0	

STATION ALTITUDE 3989.00 FEET MSL
19 NOV. 73 1015 HRS MST
ASCENSION NO. 450

UPPER AIR DATA
3230020460
WHITE SANDS

GEODETTIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 9

GEODETTIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	920.0	10.3	32.0	1045.9	667.0	150.0	9.9	1.000270
4000.0	879.7	16.8	37.9	1045.9	666.8			1.000270
4500.0	864.1	14.7	36.5	1042.7	661.9			1.000260
5000.0	840.6	13.5	39.4	1026.5	660.5			1.000257
5500.0	833.2	12.3	44.3	1013.8	659.2			1.000255
6000.0	818.1	11.2	49.1	999.3	657.9			1.000253
6500.0	803.3	10.0	53.9	985.1	656.6	208.3	20.0	1.000251
7000.0	788.8	8.9	58.6	971.2	655.3	211.3	21.5	1.000248
7500.0	774.5	7.7	63.6	957.4	654.0	214.4	22.8	1.000246
8000.0	760.3	6.5	68.9	944.2	652.5	217.1	23.9	1.000243
8500.0	746.4	5.1	74.5	931.3	651.0	219.4	24.2	1.000240
9000.0	732.6	4.0	77.0	917.8	649.6	221.1	23.9	1.000235
9500.0	719.0	2.9	73.6	904.5	648.3	221.9	22.8	1.000231
10000.0	705.6	2.0	74.0	890.9	647.1	222.6	23.3	1.000225
10500.0	692.4	0.8	71.6	878.2	645.7	223.0	24.5	1.000219
11000.0	679.4	-0.3	66.7	865.5	644.2	222.3	27.4	1.000213
11500.0	666.6	-1.2	42.3	849.6	644.1	221.7	30.5	1.000202
12000.0	654.1	-2.0	19.3	833.7	644.1	219.1	32.7	1.000192
12500.0	641.8	-2.8	16.0	817.3	644.3	216.2	34.7	1.000187
13000.0	629.6	-3.6	16.0	805.4	642.9	214.3	36.1	1.000184
13500.0	617.7	-4.5	15.0	793.7	641.5	213.2	36.8	1.000181
14000.0	605.0	-5.3	16.0	782.1	640.0	212.1	37.5	1.000178
14500.0	594.4	-6.1	15.4	770.5	638.0	214.2	37.5	1.000175
15000.0	582.9	-6.9	17.1	758.8	637.3	216.4	37.7	1.000173
15500.0	571.6	-7.8	17.8	747.3	635.9	218.9	39.0	1.000170
16000.0	560.5	-8.6	18.0	735.9	634.5	221.5	40.6	1.000167
16500.0	549.6	-9.5	19.3	724.8	633.2	224.4	42.8	1.000165
17000.0	539.0	-10.3	20.0	713.6	631.9	224.9	43.1	1.000162
17500.0	528.5	-11.1	20.8	703.0	630.5	223.7	42.7	1.000160
18000.0	518.2	-12.0	24.0	692.6	628.9	220.1	43.0	1.000157
18500.0	507.9	-13.0	25.5	682.5	627.3	218.0	42.7	1.000155
19000.0	497.8	-14.0	31.2	672.2	625.8	216.4	42.3	1.000153
19500.0	487.9	-15.0	27.3	660.6	624.9	219.1	42.2	1.000150
20000.0	478.1	-16.0	23.5	649.2	624.0	222.1	42.3	1.000147
20500.0	468.5	-17.0	21.2	638.4	622.9	224.6	43.1	1.000144
21000.0	459.0	-18.0	21.7	628.7	621.3	227.0	44.0	1.000142
21500.0	449.8	-19.0	22.2	619.1	619.9	228.7	43.2	1.000140
22000.0	440.6	-20.0	22.6	609.7	618.2	230.4	42.4	1.000137
22500.0	431.6	-21.0	25.5	599.9	616.8	231.3	42.1	1.000135
23000.0	422.7	-22.0	30.0	589.6	615.6	232.1	41.8	1.000133

XX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

UPPER AIR DATA
 3200020420
 WHITE SANDS
 106.37033 LON DEG

STATION ALTITUDE 3989.00 FEET MSL
 19 NOV. 79
 ASCENSION NO. 480

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 9 (cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GRAMS/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
23000.0	414.0	-24.5	39.5	579.9	614.4	231.6	41.2	1.000131
24000.0	405.5	-25.5	39.0	578.1	613.2	230.4	40.5	1.000129
25000.0	397.1	-26.5	38.4	569.7	611.9	228.0	42.0	1.000127
26000.0	389.8	-27.6	35.3	551.5	610.5	226.8	44.8	1.000124
25500.0	390.9	-26.7	31.2	542.4	609.1	226.0	47.4	1.000122
26000.0	372.7	-29.0	25.6	533.5	607.7	226.8	49.2	1.000120
26500.0	364.3	-31.6	24.5	523.9	606.7	228.2	47.5	1.000117
27000.0	357.0	-31.8	22.7	514.3	605.0	229.0	47.1	1.000115
27500.0	349.4	-32.1	20.9	505.0	604.9	229.3	47.9	1.000113
28000.0	342.0	-32.8	19.2	495.8	603.9	229.8	48.9	1.000111
28500.0	334.7	-33.0	18.5**	487.2	602.7	230.2	49.9	1.000109
29000.0	327.4	-33.6	18.2**	478.9	601.2	230.8	50.2	1.000107
29500.0	320.3	-36.1	11.1**	470.8	599.8	231.5	50.4	1.000105
30000.0	313.4	-37.3	7.4**	462.9	598.3	232.1	51.2	1.000103
30500.0	306.5	-38.5	3.7**	455.1	598.8	232.6	52.3	1.000101
31000.0	299.9	-39.6		447.4	595.2	233.3	54.3	1.000100
31500.0	293.2	-40.6		439.6	593.9	234.0	56.6	1.000098
32000.0	286.7	-41.9		431.9	592.4	234.8	56.5	1.000096
32500.0	280.2	-43.1		424.4	590.9	235.7	60.2	1.000095
33000.0	274.0	-44.5		417.0	589.4	236.9	59.9	1.000093
33500.0	267.8	-45.8		409.8	587.9	238.4	58.5	1.000091
34000.0	261.6	-46.5		402.6	585.4	239.6	55.9	1.000090
34500.0	255.0	-47.5		395.7	583.6	240.7	54.9	1.000088
35000.0	250.2	-48.0		388.8	583.3	240.9	53.6	1.000087
35500.0	244.4	-49.9		381.5	582.0	239.9	53.4	1.000085
36000.0	238.8	-50.9		374.3	580.7	238.5	53.5	1.000083
36500.0	233.2	-51.9		367.5	579.5	236.7	54.3	1.000082
37000.0	227.8	-52.9		360.4	578.2	234.9	55.1	1.000080
37500.0	222.6	-53.9		353.6	576.9	233.0	55.7	1.000079
38000.0	217.4	-54.9		347.0	575.6	231.1	56.4	1.000077
38500.0	212.3	-55.1		350.3	575.0	229.5	56.8	1.000075
39000.0	207.4	-55.1		329.4	577.9	227.8	57.2	1.000073
39500.0	202.5	-51.7		316.7	579.7	227.4	58.2	1.000071
40000.0	197.9	-51.7		311.2	579.8	227.1	59.3	1.000069
40500.0	193.3	-51.5		303.6	580.2	227.2	59.4	1.000068
41000.0	188.8	-52.3		297.7	579.0	227.5	59.4	1.000066
41500.0	184.3	-53.2		292.0	577.8	227.3	55.2	1.000065
42000.0	180.0	-54.1		286.4	576.5	226.3	55.7	1.000064
42500.0	175.8	-55.1		280.8	575.3	225.2	53.2	1.000063
43000.0	171.7	-56.0		275.4	574.1	222.7	50.4	1.000061

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

UPPER AIR DATA
3250320480
WHITE SARLES

STATION: ALTITUDE 3939.00 FEET MSL
19 NOV. 79
1015 HRS MST
ASCENSION NO. 460

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 9 (cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GRAMS PER CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TR)	SPEED KNOTS	INDEX OF REFRACTION
43000.0	167.7	-55.9		270.1	572.0	219.9	47.8	1.000060
44000.0	163.7	-57.9		269.0	571.6	217.7	46.2	1.000059
45000.0	159.8	-58.5		259.4	570.8	215.5	44.8	1.000058
46000.0	156.9	-59.9		253.7	570.2	213.0	43.6	1.000057
47000.0	152.3	-59.4		249.2	569.5	212.2	42.6	1.000055
48000.0	148.6	-60.4		243.0	568.7	210.7	41.6	1.000054
49000.0	145.0	-61.1		238.3	567.3	210.5	40.9	1.000053
50000.0	141.5	-62.1		233.7	565.9	210.3	40.3	1.000052
51000.0	138.1	-63.2		229.1	564.5	211.3	39.5	1.000051
52000.0	134.8	-64.2		224.7	563.1	213.1	38.8	1.000050
53000.0	131.5	-64.8		219.6	562.4	215.1	38.1	1.000049
54000.0	128.2	-65.1		214.7	561.9	216.0	35.8	1.000048
55000.0	125.1	-65.5		209.9	561.4	218.3	33.7	1.000047
56000.0	122.0	-65.7		204.9	561.1	219.3	32.4	1.000046
57000.0	119.0	-65.9		199.9	561.0	219.6	32.0	1.000045
58000.0	116.1	-65.9		195.0	560.9	219.9	32.2	1.000043
59000.0	113.2	-65.9		190.3	560.8	220.0	34.9	1.000042
60000.0	110.4	-65.0		185.7	560.7	220.0	37.6	1.000041
61000.0	107.7	-65.7		180.8	561.2	221.4	39.2	1.000040
62000.0	105.0	-65.3		175.1	561.6	222.9	40.8	1.000039
63000.0	102.5	-64.9		171.4	562.1	224.7	40.2	1.000038
64000.0	99.9	-64.0		166.9	562.6	227.0	38.2	1.000037
65000.0	97.5	-64.5		162.6	562.7	229.2	35.7	1.000036
66000.0	95.1	-64.5		158.3	562.8	230.3	31.8	1.000035
67000.0	92.8	-64.4		154.8	562.9	231.7	27.8	1.000034
68000.0	90.5	-64.3		151.0	563.0	232.2	25.6	1.000034
69000.0	88.3	-64.2		147.2	563.1	232.5	23.7	1.000033
70000.0	86.1	-64.2		143.6	563.2	232.7	22.4	1.000032
71000.0	84.0	-64.1		140.0	563.3	232.7	22.2	1.000031
72000.0	82.0	-64.0		136.6	563.4	232.7	22.0	1.000030
73000.0	80.0	-63.9		133.2	563.5	231.2	21.1	1.000030
74000.0	78.0	-64.2		130.1	563.1	229.4	20.2	1.000029
75000.0	76.1	-64.1		127.4	562.0	227.1	19.1	1.000028
76000.0	74.2	-64.1		125.7	563.3	223.9	17.9	1.000028
77000.0	72.5	-62.8		120.0	565.0	220.4	16.7	1.000027
78000.0	70.7	-61.5		116.4	566.7	217.8	16.1	1.000026
79000.0	69.0	-59.3		113.0	567.0	215.3	15.6	1.000025
80000.0	67.3	-61.9		111.0	569.2	213.7	15.3	1.000025
81000.0	65.7	-62.5		108.9	565.5	213.6	15.0	1.000024
82000.0	64.1	-63.0		106.2	564.7	213.6	14.7	1.000024

UPPER AIR DATA
3230020400
WHITE SANDS

STATION ALTITUDE 3959.00 FEET MSL
17 NOV. 75
ASCENSION NO. 430

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

TABLE 9 (cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GRAMS/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
63500.0	62.5	-53.5		135.9	564.0	216.8	14.1	1.000023
64500.0	61.8	-54.1		101.6	563.2	220.8	13.5	1.000023
65500.0	59.5	-55.7		99.4	562.5	223.6	12.8	1.000022
66500.0	58.1	-55.1		97.2	561.9	232.2	11.9	1.000022
67500.0	56.5	-64.3		94.5	563.0	239.7	11.2	1.000021
68500.0	55.0	-57.5		91.0	564.1	246.5	11.1	1.000020
69500.0	53.9	-52.5		89.3	565.2	252.5	11.2	1.000020
70500.0	52.6	-51.5		86.9	566.3	253.2	11.5	1.000019
71500.0	51.4	-51.0		84.3	567.4	254.0	11.2	1.000019
72500.0	50.1	-60.2		82.0	568.5	249.6	10.9	1.000018
73500.0	48.9	-60.0		79.9	565.7	242.9	10.5	1.000019
74500.0	47.7	-60.3		78.0	566.8	231.1	9.6	1.000017
75500.0	46.0	-59.0		76.1	568.9	218.3	9.7	1.000017
76500.0	45.5	-59.5		74.3	569.0	210.2	9.3	1.000017
77500.0	44.4	-59.5		72.5	569.1	220.5	8.8	1.000016
78500.0	43.3	-59.7		70.7	569.1	225.3	8.3	1.000016
79500.0	42.5	-59.7		69.0	569.2	225.4	8.3	1.000015
80500.0	41.3	-59.6		67.4	569.3	225.3	9.3	1.000015
81500.0	40.5	-59.5		65.7	569.4	222.5	9.1	1.000015
82500.0	39.3	-59.5		64.1	569.5	211.0	7.8	1.000014
83500.0	38.4	-59.5		62.6	569.6	195.8	6.9	1.000014
84500.0	37.5	-59.3		61.1	569.5	193.7	4.0	1.000014
85500.0	36.6	-59.3		59.6	569.7	361.1	.9	1.000013
86500.0	35.7	-59.2		58.2	569.8	353.4	4.9	1.000013
87500.0	34.9	-59.2		56.8	569.9			1.000013
88500.0	34.0	-59.1		55.4	570.0			1.000012
89500.0	33.2	-59.0		54.0	570.1			1.000012

STATION ALTITUDE 3959.00 FEET MSL
 10 NOV. 79
 ASCENSION NO. 459

MANDATORY LEVELS
 320000Z
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 10

PRESSURE GEOPOTENTIAL MILLIBARS	FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
				DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4951.	13.6	59.	9999.0	9999.0XX
800.0	5615.	9.8	55.	209.1	20.3
750.0	6363.	5.5	73.	210.8	24.1
700.0	7022.	1.6	72.	222.7	23.3
650.0	7652.	.2	17.	218.2	33.3
600.0	8242.	-4.0	10.	213.2	37.5
550.0	8873.	-9.0	19.	224.3	42.7
500.0	9466.	-15.1	32.	216.8	42.4
450.0	10158.	-20.1	22.	228.6	43.2
400.0	10827.	-26.1	42.	229.4	41.0
350.0	11415.	-32.0	21.	229.3	47.8
300.0	11925.	-39.6		233.3	54.2
250.0	12444.	-49.0		240.9	53.6
200.0	12975.	-51.9		227.2	56.7
175.0	13303.	-55.3		224.8	52.7
150.0	13592.	-59.7		211.3	42.0
125.0	13871.	-65.0		210.2	33.7
100.0	14122.	-69.6		226.8	38.3
80.0	14351.	-63.9		231.3	21.2
70.0	14559.	-61.0		217.0	16.0
60.0	14703.	-64.5		223.4	13.2
50.0	14793.	-60.1		249.5	10.9
40.0	14833.	-59.5		229.2	8.8

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3697.20 FEET MSL
19 NOV. 79
ASCENSION NO. 377

SIGNIFICANT LEVEL DATA
3230069377
S H R

TABLE 11

PRESSURE	GEOMETRIC	TEMPERATURE	REL. HUM.
ALTITUDE	AIR	DEWPOINT	PERCENT
MILLIBARS	DEGREES	CENTIGRADE	
MSL FEET			
877.5	3937.3	20.7	5.1
990.0	4025.9	16.0	3.0
776.2	7209.4	0.5	1.9
700.0	10156.3	.3	-.3
665.2	11453.1	-2.4	-4.1
639.8	12509.6	-4.9	-6.1
631.2	12659.9	-4.7	-9.1
622.4	13224.2	-3.2	-25.4
605.4	13743.9	-3.4	-24.9
531.6	17286.2	-10.7	-28.2
500.0	16313.9	-14.9	-28.2
484.6	19590.6	-16.1	-35.3
411.6	23562.6	-25.5	-37.4
400.0	24244.3	-26.3	-35.1
377.6	25603.5	-28.9	-40.9
345.0	27716.2	-33.1	-47.4
332.4	28575.0	-34.4	-43.4
320.2	29431.6	-36.7	-43.4
300.0	30900.5	-37.5	-43.4
262.2	33902.4	-45.0	-43.4
250.0	34939.3	-49.3	-43.4
236.0	36174.4	-52.7	-43.4
208.0	39609.7	-53.4	-43.4
193.1	40435.6	-52.7	-43.4
156.0	45703.3	-61.5	-43.4
134.5	47922.3	-63.6	-43.4
127.4	49025.5	-61.5	-43.4
104.6	53025.4	-64.9	-43.4
100.0	53934.9	-62.9	-43.4
95.0	54345.8	-61.5	-43.4
88.6	56397.5	-64.0	-43.4
82.4	57671.0	-62.1	-43.4
76.6	59353.7	-64.0	-43.4
70.0	61184.3	-62.1	-43.4
57.0	65333.6	-64.6	-43.4
50.0	69025.6	-60.2	-43.4
46.2	69550.9	-61.2	-43.4
39.0	75331.6	-39.6	-43.4
30.0	78599.6	-55.8	-43.4
24.0	81307.7	-55.0	-43.4

UPPER AIR DATA
3230060377
S M R
TABLE 12

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

[illegible]

UPPER AIR DATA

3230050377
S M R

STATION ALTITUDE 3997.30 FEET MSL
19 NOV. 79 1145 HRS MSL
ASCENSION NO. 377

TABLE 12 (cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
23500.0	412.7	-25.2	30.8	579.5	613.6	230.5	52.4	1.000131
24000.0	404.1	-25.9	30.7	569.3	612.6	231.2	53.7	1.000129
24500.0	395.7	-26.8	40.6	559.4	611.6	231.6	54.4	1.000126
25000.0	387.4	-27.7	35.8	549.9	610.4	231.7	54.7	1.000124
25500.0	379.3	-28.7	31.0	540.5	609.2	232.1	54.9	1.000122
26000.0	371.3	-29.7	28.5	531.2	607.9	232.6	55.0	1.000119
26500.0	363.5	-30.7	26.6	522.1	606.7	233.5	55.1	1.000117
27000.0	355.7	-31.7	24.7	513.2	605.4	234.5	55.1	1.000115
27500.0	348.2	-32.7	22.6	504.4	604.2	234.6	56.1	1.000113
28000.0	340.8	-33.5	21.3	495.4	603.1	234.5	57.1	1.000111
28500.0	333.5	-34.3	20.2	486.3	602.1	233.5	58.4	1.000109
29000.0	326.3	-35.5	10.1**	478.4	600.5	232.7	59.5	1.000107
29500.0	319.2	-36.8		470.6	598.9	232.2	60.3	1.000105
30000.0	312.3	-37.6		462.2	597.7	232.5	61.7	1.000103
30500.0	305.5	-38.7		453.9	596.5	233.1	63.5	1.000101
31000.0	298.8	-39.7		445.8	595.2	234.4	65.5	1.000099
31500.0	292.1	-40.7		437.9	593.9	235.7	67.6	1.000098
32000.0	285.6	-41.8		430.1	592.6	237.1	69.2	1.000096
32500.0	279.3	-42.8		422.4	591.2	238.4	70.7	1.000094
33000.0	273.1	-43.9		414.9	589.9	239.0	72.2	1.000092
33500.0	267.0	-45.0		407.6	588.5	239.5	73.6	1.000091
34000.0	261.0	-46.1		400.5	587.0	239.5	73.3	1.000089
34500.0	255.1	-47.3		394.4	584.8	239.5	73.1	1.000088
35000.0	249.3	-49.5		388.2	582.7	239.3	71.3	1.000086
35500.0	243.5	-50.6		381.8	580.9	238.6	69.2	1.000085
36000.0	237.9	-52.2		375.2	579.1	238.0	67.0	1.000084
36500.0	232.8	-52.8		367.4	578.3	236.7	64.7	1.000082
37000.0	227.0	-52.9		359.0	576.2	235.6	62.5	1.000080
37500.0	221.7	-53.0		350.8	574.1	234.5	60.3	1.000078
38000.0	216.5	-53.1		342.8	573.0	233.7	58.3	1.000076
38500.0	211.5	-53.2		335.0	571.8	233.4	56.3	1.000075
39000.0	206.6	-53.3		327.3	570.7	233.2	54.8	1.000073
39500.0	201.8	-53.4		319.5	570.6	233.0	53.6	1.000071
40000.0	197.1	-53.1		312.0	570.9	232.0	53.0	1.000069
40500.0	192.5	-52.6		304.4	575.3	232.2	52.8	1.000068
41000.0	187.9	-53.6		296.3	577.2	231.6	52.8	1.000066
41500.0	183.5	-54.5		292.3	576.1	231.3	53.1	1.000065
42000.0	179.1	-55.3		288.5	575.0	230.9	53.2	1.000064
42500.0	174.9	-56.1		284.8	573.9	230.5	52.6	1.000063
43000.0	170.8	-57.0		275.2	572.8	230.1	52.0	1.000061

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3997.30 FEET MSL
19 NOV. 79 1145 HRS HST
ASCENSION NO. 377

UPPER AIR DATA
3230000377
S M R

GEODETTIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

TABLE 12 (cont)

GEOMETRIC ALTITUDE METER	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND M/SEC	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
3300.0	166.7	-57.0		269.7	571.7	229.7	50.7	1.000060
4000.0	162.6	-58.7		264.4	570.6	229.2	49.3	1.000059
4500.0	158.9	-59.5		259.1	569.5	226.7	49.5	1.000058
5000.0	155.1	-60.3		254.0	568.3	228.2	50.2	1.000057
5500.0	151.5	-61.2		249.9	567.2	227.6	51.7	1.000055
6000.0	147.8	-61.8		245.6	566.4	227.5	54.1	1.000054
6500.0	144.2	-62.3		238.3	565.8	227.2	56.5	1.000053
7000.0	140.7	-62.7		233.0	565.1	226.7	56.1	1.000052
7500.0	137.3	-63.2		227.9	564.5	226.2	55.7	1.000051
8000.0	134.0	-63.6		222.6	563.1	225.6	53.9	1.000050
8500.0	130.7	-64.3		218.2	562.4	224.6	50.5	1.000048
9000.0	127.6	-61.5		219.0	566.7	223.5	47.3	1.000047
9500.0	124.5	-61.3		205.2	565.2	222.1	44.3	1.000046
10000.0	121.4	-62.3		200.6	565.7	220.7	41.7	1.000045
10500.0	118.5	-62.8		196.2	565.1	219.2	39.4	1.000044
11000.0	115.6	-63.2		191.8	564.5	216.2	38.6	1.000043
11500.0	112.8	-63.6		187.5	563.9	217.4	38.2	1.000042
12000.0	110.0	-64.0		183.3	563.4	218.0	36.9	1.000041
12500.0	107.3	-64.5		179.2	562.8	216.9	39.7	1.000040
13000.0	104.7	-64.9		175.2	562.2	220.9	38.1	1.000039
13500.0	102.2	-63.9		170.1	563.5	223.4	36.3	1.000038
14000.0	99.7	-62.7		165.0	565.2	226.2	34.5	1.000037
14500.0	97.3	-61.7		160.2	566.5	229.4	32.9	1.000036
15000.0	94.9	-62.3		155.8	565.7	231.9	33.0	1.000035
15500.0	92.6	-62.6		153.4	564.9	234.3	33.5	1.000034
16000.0	90.3	-63.5		150.1	564.1	236.5	33.6	1.000033
16500.0	88.2	-63.8		149.7	563.6	238.6	32.9	1.000033
17000.0	85.8	-63.2		142.7	564.5	240.8	32.2	1.000032
17500.0	83.9	-62.6		138.8	565.3	240.7	29.4	1.000031
18000.0	81.9	-62.5		135.3	565.7	240.4	26.4	1.000030
18500.0	79.9	-62.3		132.4	564.9	238.6	23.1	1.000029
19000.0	77.9	-63.5		129.5	564.0	234.5	19.6	1.000029
19500.0	76.1	-63.8		126.6	563.6	229.1	16.4	1.000028
20000.0	74.2	-63.3		123.2	564.5	225.3	14.3	1.000027
20500.0	72.5	-62.6		119.9	565.0	220.2	12.2	1.000027
21000.0	70.6	-62.3		116.7	565.7	219.6	12.1	1.000026
21500.0	68.9	-62.3		113.8	565.7	221.3	12.6	1.000025
22000.0	67.2	-62.6		111.2	565.3	223.1	13.5	1.000025
22500.0	65.6	-62.3		109.7	564.9	225.0	15.0	1.000024
23000.0	64.0	-63.2		106.2	564.5	226.6	16.6	1.000024

UPPER AIR DATA

3230000377
S M R

STATION ALTITUDE 3907.30 FEET MSL
12 NOV. 73
ASCENSION NO. 377

GEODETIC COORDINATES
32.48034 LAT DEG
136.42307 LONG DEG

TABLE 12 (cont)

GEOMETRIC ALTITUDE ASL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GR/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
62000.0	62.5	-67.5		103.8	554.1	228.0	17.1	1.000023
54000.0	60.9	-65.8		101.4	563.7	229.4	17.5	1.000023
54000.0	59.4	-65.1		99.1	563.3	231.2	17.4	1.000022
54000.0	58.0	-64.4		96.8	562.9	233.9	16.5	1.000022
55000.0	56.5	-64.4		94.4	562.9	236.9	15.6	1.000021
56000.0	55.2	-63.5		91.3	564.0	238.5	13.3	1.000020
56000.0	53.9	-62.7		89.2	565.1	240.6	10.9	1.000020
67000.0	52.6	-61.9		86.7	566.2	240.9	6.7	1.000019
67000.0	51.3	-61.1		84.3	567.3	234.7	7.0	1.000019
58000.0	49.1	-60.0		81.9	568.4	224.5	5.4	1.000018
58000.0	48.0	-60.0		79.0	569.1	215.5	5.2	1.000018
59000.0	47.7	-59.0		76.2	567.7	209.8	5.7	1.000017
59000.0	46.5	-61.1		76.5	567.3	205.3	5.2	1.000017
70000.0	45.4	-61.1		74.6	567.4	209.6	6.6	1.000017
70000.0	44.3	-60.9		72.6	567.6	213.4	7.0	1.000016
71000.0	43.3	-60.0		70.9	567.9	217.0	7.5	1.000016
71000.0	42.2	-60.2		68.2	568.2	229.5	8.1	1.000015
72000.0	41.2	-60.2		67.5	568.5	225.6	8.8	1.000015
72000.0	40.2	-60.0		65.8	568.7	225.3	9.3	1.000015
73000.0	39.3	-59.8		64.1	569.0	226.5	9.7	1.000014
73000.0	38.3	-59.6		62.6	569.3	227.5	10.1	1.000014
74000.0	37.4	-59.4		61.0	569.6	227.9	9.9	1.000014
74000.0	36.5	-59.2		59.5	569.8	228.3	9.6	1.000013
75000.0	35.7	-59.0		58.0	570.1	228.6	9.3	1.000013
75000.0	34.8	-58.6		56.6	570.4	235.8	8.6	1.000013
76000.0	34.0	-58.6		55.2	570.7	240.0	7.9	1.000012
76000.0	33.2	-58.0		53.7	571.4	247.0	7.4	1.000012
77000.0	32.4	-57.5		52.3	572.1	253.4	7.5	1.000012
77000.0	31.6	-57.0		51.0	572.8	259.7	7.6	1.000011
78000.0	30.9	-56.4		49.5	573.5	264.6	7.6	1.000011
79000.0	30.1	-56.0		48.0	574.2	266.6	7.3	1.000011
80000.0	29.4	-55.7		47.2	574.4	268.6	7.0	1.000011
80000.0	28.7	-55.6		46.0	574.6	269.6	6.6	1.000010
80000.0	28.1	-55.6		44.9	574.7	254.4	6.0	1.000010
80000.0	27.4	-55.5		43.9	574.8	259.2	5.5	1.000010
81000.0	26.9	-55.0		42.6	574.9			1.000009
81000.0	26.1	-55.0		41.8	575.0			1.000009
82000.0	25.5	-55.2		41.6	575.1			1.000009
82000.0	24.9	-55.1		39.8	575.2			1.000009
83000.0	24.4	-55.1		38.9	575.3			1.000009

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

RADIOLOGY LEVELS
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STATION ALTITUDE 3097.30 FEET MSL
19 NOV. 72
ASSEMBLY NO. 377

TABLE 13

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
855.0	6833.	16.0	3.0	44.	214.1	13.2
800.0	5559.	11.0	2.7	57.	220.2	15.5
750.0	6311.	5.0	1.5	74.	224.3	10.3
700.0	10155.	.0	-1.3	90.	227.4	19.3
650.0	12007.	-3.0	-5.3	99.	225.4	26.4
600.0	14160.	-3.0	-25.1	17.	217.3	40.2
550.0	16392.	-3.0	-27.2	21.	215.9	44.5
500.0	18759.	-14.9	-26.2	31.	212.3	47.0
450.0	21373.	-20.3	-34.9	26.	223.1	46.6
400.0	23239.	-20.3	-39.1	43.	231.6	54.3
350.0	27333.	-22.4	-40.3	31.	234.6	55.3
300.0	30688.	-29.9		31.	234.1	65.1
250.0	34834.	-49.3			239.3	71.7
200.0	39395.	-53.0			232.9	53.2
175.0	42400.	-56.1			230.5	52.6
150.0	45562.	-61.5			227.7	52.6
125.0	49273.	-61.8			222.4	44.0
100.0	53762.	-62.0			225.7	34.9
75.0	58251.	-62.9			239.0	23.5
50.0	62975.	-62.1			220.3	12.3
25.0	64055.	-64.0			230.2	17.7
0.0	67771.	-60.2			224.7	5.4
	72326.	-60.0			225.5	9.3
	78265.	-55.3			236.9	7.3
	82039.	-55.1				